

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-11, 12-23, 26, 28-29, 32-55, 58, 60, 61 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyake (6906815).

Claim 1, Miyake discloses a method for determining print progress of a document being printed on a printer (Col. 5, Lines 32-40), comprising monitoring print progress of a document during printing (Col. 6 Lines 50-57); and computing in real time the percentage of said printing which has been completed based on said monitoring (Col. 7, Lines 29-67, and Col. 9 Lines 55-60, Fig. 10).

Claim 2, Miyake discloses a method that further stores the computed percentage in non-volatile memory (Col 4. Lines 15-25).

Claim 3, Miyake discloses a method that further reports the computed percentage to a host device associated with the printer (Fig. 10, Col. 7 Lines 50-56)

Art Unit: 4178

Claim 4, Miyake discloses a method that further comprises storing the computed percentage in non-volatile memory of the host device (Col.4 Lines 15-25).

Claim 5, Miyake discloses a method that further comprises displaying the computed percentage on a printer display (Col. 7 Lines 7-14).

Claim 6, Miyake discloses a method that further comprises displaying the computed percentage on a display of a host device associated with said printer (Col. 7 Lines 7-14 and Col. 9 Lines 55-61).

Claim 7, Miyake discloses a method, wherein the said monitoring comprises monitoring movement of a paper drive mechanism of said printer during printing (Col. 8 Lines 30-45).

Claim 8, Miyake discloses a method wherein said monitoring is independent of a paper drive mechanism of said printer (Col. 9 Lines 41-50).

Claim 9, Miyake discloses a method which further comprises detecting a printing error if less than 100 percent of the document is printed (Fig. 9 El. S800)

Claim 10, Miyake discloses a method determining whether sufficient information was printed to provide a usable document (Col. 5 Lines 55-66).

Art Unit: 4178

. **Claim 11**, Miyake discloses a method wherein the said document comprises a ticket, a coupon, a voucher, or a receipt. (Col. 5 Lines 10-15)

Claim 12, Miyake discloses a method wherein said document comprises a plurality of print fields, further comprising; determining print completion status of each of said plurality of print fields based on said computed percentage. (Col. 7 Lines 44-50 and Col. 9 Lines 55-60).

Claim 13, Miyake discloses a method wherein, it further comprises: reporting said print field completion status from said printer to a host device (Col. 7 Lines 7-14).

Claim 14, Miyake discloses a method wherein the said reporting comprises real-time reporting during said printing (Col. 10 Lines 25-33).

Claim 15, Miyake discloses a method wherein storing the print field completion status in at least one of non-volatile memory of the printer and non-volatile memory of the host device (Fig. 10, Col. 7 Lines 50-56).

Claim 16, Miyake discloses a method that further comprises displaying the print field completion status on at least one of a printer display or a host device display (Col. 7 Lines 7-14).

Claim 17, Miyake discloses a method wherein it further detects a printing error if less than all of said plurality of print fields is printed (Fig. 9 El. S800).

Claim 18, Miyake discloses a method which further comprising determining whether a sufficient number of print fields were printed to provide a usable document (Col. 5 Lines 55-66).

Claim 19, Miyake discloses a method wherein said determining step comprises: determining a location and size of each print field (Col. 7 Lines 29-65):

Comparing the location and size of each print field with the computed percentage to determine the print field completion status for each print field (Col. 6 Lines 51-66).

Claim 20, Miyake discloses a method wherein said plurality of print fields comprises critical and non-critical fields (Col. 7 Lines 29-65);

and said determining step comprises determining a location and size of each critical field; comparing the location and size of each critical field with the computed percentage to determine the print field completion status for each critical field. (Col. 6 Lines 51-66).

Art Unit: 4178

Claim 21, Miyake discloses a method wherein a usable document is created when all critical fields are printed (Col. 5 Lines 55-66- Thus it is usable when all pages are printed).

Claim 22, Miyake discloses a method wherein: said determining step further comprises determining a location and size of each non-critical field (Col. 7 Lines 29-65):

comparing the location and size of each non-critical field with the computed percentage to determine the print field completion status for each non-critical field. (Col. 6 Lines 51-66).

Claim 23, Miyake discloses a method wherein said monitoring comprises: sensing rotational movement of a sensing wheel which rides on the document and which is rotated as the document travels along a paper path during said printing (Col. 4 Lines 50-60).

Claim 26, Miyake discloses a method, wherein said monitoring comprises sensing the position of the document as the document travels along a paper path during said printing via a series of sensors arranged along the paper path. (Col. 5 Lines 1-15).

Claim 28, Miyake discloses a method wherein said sensors comprise mechanically actuated sensors actuated by movement of the document along the paper path. (Col. 4 Lines 60-66, Fig. 23 El. 38).

Claim 29, Miyake discloses a method wherein said monitoring comprises sensing rotational movement of a cam which is rotated by the document as the document travels along a paper path during said printing. (Col. 5 Lines 1-25, Fig. 2).

Claim 32, Miyake discloses a method wherein said monitoring comprises sensing the position of the document as the document travels along a paper path during said printing via an optical navigation sensor. (Col. 4 Lines 60-66, Fig. 23 El. 38).

Claim 33, Miyake discloses an apparatus for determining print progress of a document being printed on a printer (Col. 5, Lines 32-40), comprising: monitoring means (Fig. 10) for monitoring print progress of a document during printing (Col. 6 Lines 50-57) and a processor (Fig. 3 El. 71) for computing in real time the percentage of said printing which has been completed based on said monitoring (Col. 7, Lines 29-67 and Col. 9 Lines 55-60).

Claim 34, Miyake discloses an apparatus that further comprises: non-volatile memory for storing the computed percentage (Col 4. Lines 15-25).

Claim 35, Miyake discloses an apparatus wherein the computed percentage is reported to a host device associated with the printer (Fig. 10, Col. 7 Lines 50-56).

Claim 36, Miyake discloses an apparatus wherein the computed percentage is stored in non-volatile memory of the host device (Col 4. Lines 15-25).

Claim 37, Miyake discloses an apparatus which further comprises: a display for displaying the computed percentage (Col. 7 Lines 7-14, Fig. 3 El. 21).

Claim 38, Miyake discloses an apparatus wherein the computed percentage is displayed on a display of a host device associated with said printer (Col. 7 Lines 7-14, Fig. 3 El. 21).

Claim 39, Miyake discloses an apparatus wherein: said monitoring means monitors movement of a paper drive mechanism of said printer during printing (Col. 8 Lines 30-45).

Claim 40, Miyake discloses an apparatus, wherein said monitoring means is independent of a paper drive mechanism of said printer (Col. 9 Lines 41-50).

Art Unit: 4178

Claim 41, Miyake discloses an apparatus, wherein: a printing error is detected if less than 100 percent of the document is printed (Fig. 9 El. S800).

Claim 42, Miyake discloses an apparatus, wherein said processor determines whether sufficient information was printed to provide a usable document (Col. 5 Lines 55-66).

Claim 43, Miyake discloses a method wherein the said document comprises a ticket, a coupon, a voucher, or a receipt. (Col. 5 Lines 10-15).

Claim 44, Miyake discloses an apparatus, wherein said document comprises a plurality of print fields; and said processor further determines print completion status of each of said plurality of print fields based on said computed percentage. (Col. 5 Lines 40-50).

Claim 45, Miyake discloses an apparatus in wherein said print field completion status is reported from said printer to a host device. (Col. 7 Lines 7-14).

Claim 46, Miyake discloses an apparatus in wherein said print field completion status is reported in real-time during said printing. (Col. 10 Lines 25-33).

Art Unit: 4178

Claim 47, Miyake discloses an apparatus, wherein the print field completion status is stored in at least one of non-volatile memory of the printer and non-volatile memory of the host device (Col. 4 Lines 15-25).

Claim 48, Miyake discloses an apparatus wherein the print field completion status is displayed on at least one of a printer display or a host device display (Col 4. Lines 15-25).

Claim 49, Miyake discloses as apparatus, wherein a printing error is detected if less than all of said plurality of print fields are printed. (Fig. 9 El. S800).

Claim 50, Miyake discloses an apparatus which, further comprising: determining whether a sufficient number of print fields were printed to provide a usable document (Col. 5 Lines 55-66).

Claim 51, Miyake discloses an apparatus, wherein said processor determines a location and size of each print field and compares the location and size of each print field with the computed percentage to determine the print field completion status for each print field. (Col. 7 Lines 29-65)

Claim 52, Miyake discloses an apparatus in wherein said plurality of print fields comprises critical and non-critical fields (Col. 7 Lines 29-65)

Art Unit: 4178

and said processor determines a location and size of each critical field and compares the location and size of each critical field with the computed percentage to determine the print field completion status for each critical field. (Col. 6 Lines 51-66)

Claim 53, Miyake discloses a method, wherein a usable document is created when all critical fields are printed (Col. 7 Lines 57-65).

Claim 54, Miyake discloses a method wherein said processor further determines a location and size of each non-critical field (Col. 7 Lines 29-65)

and compares the location and size of each non-critical field with the computed percentage to determine the print field completion status for each non-critical field. (Col. 6 Lines 51-66).

Claim 55, Miyake disclose an apparatus, wherein said monitoring means comprises:

a sensing wheel which rides on the document and which is rotated as the document travels along a paper path during said printing (Col. 4 Lines 50-56)

a sensor for sensing rotational movement of the sensing wheel.(Col. 4 Lines 50-56).

Claim 58, Miyake discloses an apparatus in which, the said monitoring means comprises a series of sensors arranged along a paper path which sense

Art Unit: 4178

the position of the document as the document travels along the paper path during said printing.(Col. 5 Lines 1-25, Fig. 2).

Claim 60, Miyake discloses an apparatus, wherein said sensors comprise mechanically actuated sensors actuated by movement of the document along the paper path (Col. 5 Lines 1-25, Fig. 2).

Claim 61, Miyake discloses an apparatus wherein said monitoring means comprises a cam which is rotated by the document as the document travels along a paper path during said printing; and a sensor for sensing rotational movement of the cam. (Col 4 Lines 36—67- Col. 5 Lines 1-10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 24-27, 30-31, 56-57, 59, 62-64 are rejected under 35 U.S.C.

103(a) as being unpatentable over Miyake (6906815) in view of Matsuya (5040908).

Claim 24, Miyake discloses a method that uses a rotational movement of the sensing wheel.

Miyake does not disclose that the sensing wheel is detected by an optical sensor.

Matsuya discloses using an optical sensor to detect the movement of a printing head assembly. (Col. 4 Lines 45-50). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Miyake's rotational movement technology with Matsuya's optical sensing technology so that it can be detected if there is no movement of the print head as disclosed by Matsuya in Col. 4 Lines 35-50.

Claim 25, Miyake discloses a method wherein the rotational movement of the sensing wheel.

Miyake does not disclose that the sensing wheel is detected by a magnetic sensor.

Matsuya discloses using an magnetic sensor to detect the movement of a printing head assembly. (Col. 4 Lines 50-65). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Miyake's rotational movement technology with Matsuya's Magnetic sensing technology so that it can be detected if there is no movement of the print head as disclosed by Matsuya in Col. 4 Lines 35-50.

Claim 27, Miyake discloses all the limitations in Claims 1-26 as discussed above.

Miyake does not disclose a method wherein said sensors comprise optical sensors.

Matsuya discloses a method wherein said sensors comprise optical sensors. (Col. 4 Lines 45-50). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Miyake's rotational movement technology with Matsuya's optical sensing technology so that it can be detected if there is no movement of the print head as disclosed by Matsuya in Col. 4 Lines 35-50.

Claim 30, Miyake discloses all the limitations in Claims 1 and 29 as discussed above.

Miyake does not disclose that the rotational movement of the cam is detected by an optical sensor.

Matsuya discloses using optical sensor to detect the movement of a print head assembly (Col. 4 Lines 50-65). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Miyake's rotational movement technology with Matsuya's Magnetic sensing technology so that it can be detected if there is no movement of the print head as disclosed by Matsuya in Col. 4 Lines 35-50.

Claim 31, Miyake discloses all the limitations in Claims 1 and 29 as discussed above.

Miyake does not disclose a method wherein the rotational movement of the cam is detected by a magnetic sensor.

Matsuya discloses using a magnetic sensor to detect the movement of a printing head assembly. (Col. 4 Lines 50-65). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Miyake's rotational movement technology with Matsuya's Magnetic sensing technology so that it can be detected if there is no movement of the print head as disclosed by Matsuya in Col. 4 Lines 35-50.

Claim 56, Miyake discloses all the limitations in Claims 33-55 as discussed above.

Miyake does not disclose a method wherein said sensors comprise optical sensors.

Matsuya discloses a method wherein said sensors comprise optical sensors. (Col. 4 Lines 45-50). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Miyake's rotational movement technology with Matsuya's optical sensing technology so that it can be detected if there is no movement of the print head as disclosed by Matsuya in Col. 4 Lines 35-50.

Art Unit: 4178

Claim 57, Miyake discloses all the limitations in Claims 33-55 as discussed above.

Miyake does not disclose a method wherein said sensors comprise Magnetic sensors.

Matsuya discloses a method wherein said sensors comprise Magnetic sensors. (Col. 4 Lines 45-50). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Miyake's rotational movement technology with Matsuya's magnetic technology so that it can be detected if there is no movement of the print head as disclosed by Matsuya in Col. 4 Lines 35-50.

Claim 59, Miyake discloses all the limitations in Claims 33-58 s discussed above.

Miyake does not disclose a method wherein said sensors comprise optical sensors.

Matsuya discloses a method wherein said sensors comprise optical sensors. (Col. 4 Lines 45-50). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Miyake's rotational movement technology with Matsuya's optical sensing technology so that it can be detected if there is no movement of the print head as disclosed by Matsuya in Col. 4 Lines 35-50.

Claim 62, Miyake discloses all the limitations in Claims 33 and 61 as discussed above.

Miyake does not disclose that the rotational movement of the cam is detected by an optical sensor.

Matsuya discloses using optical sensor to detect the movement of a print head assembly (Col. 4 Lines 50-65). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Miyake's rotational movement technology with Matsuya's Magnetic sensing technology so that it can be detected if there is no movement of the print head as disclosed by Matsuya in Col. 4 Lines 35-50.

Claim 63, Miyake discloses all the limitations in Claims 33 and 61 as discussed above.

Miyake does not disclose a method wherein the rotational movement of the cam is detected by a magnetic sensor.

Matsuya discloses using a magnetic sensor to detect the movement of a printing head assembly. (Col. 4 Lines 50-65). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Miyake's rotational movement technology with Matsuya's Magnetic sensing technology so that it can be detected if there is no movement of the print head as disclosed by Matsuya in Col. 4 Lines 35-50.

Art Unit: 4178

Claim 64, Miyake discloses all the limitations in claim 33, including wherein said monitoring means comprises an navigation sensor which senses the position of the document as the document travels along a paper path during said printing.

Miyake does not disclose using an optical sensor.

Matsuya discloses using optical sensor to detect the movement of a print head assembly (Col. 4 Lines 50-65). Therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Miyake's rotational movement technology with Matsuya's Magnetic sensing technology so that it can be detected if there is no movement of the print head as disclosed by Matsuya in Col. 4 Lines 35-50.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKWASI M. SARPONG whose telephone number is (571)270-3438. The examiner can normally be reached on Monday-Friday 8:00am-5:00pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, HAI Tran can be reached on 571-272-7305. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4178

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A. M. S
12/10/2007

/Hai Tran/

Supervisory Patent Examiner, Art Unit 4178